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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,569	09/09/2003	George Emanuel	KSY 02655 PTUS	3413

32233 7590 05/10/2006

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EXAMINER

KIM, CHRISTOPHER S

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,569

Applicant(s)

EMANUEL, GEORGE

Examiner

Christopher S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) 29-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/2/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The response filed February 28, 2006 is acknowledged.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

3. Claims 29-56 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention/Species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 4, 2005.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore,
 - the "sharp wedge with an angle less than 45°" recited in claim 3;
 - the "sharp wedge has an angle of 20° or less" recited in claim 4;
 - the "strut has a coating" recited in claim 5;
 - the "orifice is circular" recited in claim 12;
 - the "orifice is oval" recited in claim 13;
 - the "iodine feed includes a carrier gas" recited in claim 14;

the “diameter of an injected iodine plume is equal to or less than the width of the strut” recited in claim 17;
the “at least two struts” recited in claim 18;
the “at least on fin” recited in claim 20;
the “sharp ogive” recited in claim 21;
the “carrier gas is helium” recited in claim 24;
the “carrier gas is nitrogen” recited in claim 25;
the “two struts” recited in claim 26;
the “two struts that are staggered” recited in claim 27;
the “heating element” recited in claim 28

must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the preamble recites "an iodine injection system" with an intended use "for a laser." The body of the claim further recites a "laser cavity." It is uncertain whether the term "laser cavity" implies a laser in the claimed invention. The term "laser" is used as an adjective, but there is no further recitation to breath life into the term "laser." In other words, it a laser positively claimed because the claim recites a "laser cavity," or is it merely a name of the cavity and any cavity can satisfy the limitation "laser cavity?" If a laser is implicitly claimed, then the preamble recites a subcombination of the iodine injection system while the body of the claim defines a combination of the iodine injection system and the laser.

Similarly, claim 1 recites, in the preamble, an "iodine injection system" and, in the claim body, "iodine injection strut." The claim implies iodine in the system but does not positively claim iodine. Therefore, it is uncertain whether the descriptive use of "iodine" in "iodine injection system" and "iodine injection strut" is merely a name of the injection

system and injection strut. Claim 23 is evidence that claim 1 does not require iodine, and therefore, any injection system and injection strut can constitute an “iodine injection system” and an “iodine injection strut.”

Claim Rejections - 35 USC § 102

6. Claims 1-4, 6, 8, 18, 20, 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Crook (2,625,008).

Crook discloses a system comprising at least one strut 40, 42, 44 located downstream of the nozzle throat (at 20).

The preamble “iodine injection system” has been given patentable weight to the extent that it merely designates a name for the claimed invention. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. The preamble does not breath life into the claim.

7. Claims 1, 2, 6, 8, 10, 12, 18, 20, 21, 26, 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Goenka et al. (6,315,221).

Goenka discloses a system comprising at least one strut 40, 42, 60 located downstream of the nozzle throat 64

The preamble “iodine injection system” has been given patentable weight to the extent that it merely designates a name for the claimed invention. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a

process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. The preamble does not breath life into the claim.

8. Claims 1, 2, 6, 8, 10, 11, 12, 20, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Sher et al. (2,613,999).

Sher discloses a system comprising at least one strut 2 located downstream of the nozzle throat 1

The preamble "iodine injection system" has been given patentable weight to the extent that it merely designates a name for the claimed invention. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. The preamble does not breath life into the claim.

9. Claims 1, 2, 6, 8, 27, 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Riho (1,608,998).

Riho discloses a system comprising at least one strut 12 having a heating element 25 located downstream of the nozzle throat 10

The preamble "iodine injection system" has been given patentable weight to the extent that it merely designates a name for the claimed invention. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not

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depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. The preamble does not breath life into the claim.

10. Claims 1, 2, 6, 8, 10, 12, 14, 18, 20, 23 are rejected under 35 U.S.C. 102(b) as being anticiapted by Dickerson (6,072,820).

Dickerson discloses an iodine injection system comprising:

a symmetric two dimensional minimum length nozzle 10 having a curved sonic line (the flow lines of O₂ in chamber 18); a throat 18, and an exit plane (such as plane defined by wires 24), wherein the nozzle 10 feeds a laser cavity 26; and

at least one iodine injection strut 20 that is located downstream of the throat 18.

11. Claims 1, 2, 6, 8, 10, 11, 12, 18, 20, 28 are rejected under 35 U.S.C. 102(b) as being anticiapted by Jacobs et al. (5,023,883).

Jacobs discloses an iodine injection system comprising:

a symmetric two dimensional minimum length nozzle (formed by outer surface of nozzles 5 and the inner surface of cavity 4) having a curved sonic line (outer curvature of nozzles 5); a throat (space between nozzles 5), and an exit plane (such as plane perpendicular to flow 8), wherein the nozzle feeds a laser cavity 10; and

at least one iodine injection strut 5 that is located downstream of the throat.

Claim Rejections - 35 USC § 103

12. Claims 7, 9, 15, 16, 17, 19, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goenka et al. (6,315,221).

Goenka discloses the claimed invention except for claimed ranges. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the claimed ranges in the device of Goenka for optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

13. Claims 5, 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sher et al. (2,613,999).

Regarding claim 5, Sher discloses the limitations of the claimed invention except for the strut having a coating. It is well known in the art to provide a coating to prevent adhesion of the working fluid. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided the strut of Sher with a coating to prevent adhesion/buildup of the working fluid.-

Regarding claims 23-25, Sher discloses the limitations of the claimed invention except for the working fluid being helium or nitrogen. Supplying helium or nitrogen to the device of Sher is merely difference in the use of the Sher's device. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided helium or nitrogen to the device of Sher to spray inert gas to prevent any chemical reactions.

Response to Arguments

14. Applicant's arguments filed February 28, 2006 have been fully considered but they are not persuasive.

Applicant relies on a non-elected species for the showing of the claimed invention. If such is the case, the claims which define the features are not readable on the elected species and will be withdrawn in subsequent Office actions. Applicant is given another opportunity to show the claimed features.

As for applicant's argument directed to the "iodine injection strut," see the rejection under 35 U.S.C. 112, second paragraph above.

In response to applicant's argument that the prior art does not show "a symmetric two dimensional minimum length nozzle, the nozzles of the prior art are symmetric two dimensional. The figures show a nozzle having a curved sonic line, a throat, and exit plane which are symmetrical about a horizontal line in the figures. The term "minimal length" has been considered a broad recitation of length rather than holding the claim indefinite for use of a relative term undefined by the specification or the claim.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (571) 272-4905. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (571) 272-4919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher S. Kim
Primary Examiner
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CK